Name:

p1105: Factoring when $a = 1$ (v11)

Example: Factor $x^2 + 5x - 24$

Find two numbers whose product is -24 and whose sum is 5. Focus on finding factor pairs of -24. Eventually you consider 8 and -3 because $(8)(-3) = -24$. You verify this pair is correct because $(8) + (-3) = 5$. Thus, your answer:

$$(x + 8)(x - 3)$$

1. Factor $x^2 + 9x + 8$

$$(x + 8)(x + 1)$$

2. Factor $x^2 - 11x + 30$

$$(x - 6)(x - 5)$$

3. Factor $x^2 - 6x - 7$

$$(x + 1)(x - 7)$$

4. Factor $x^2 - 4$

$$(x + 2)(x - 2)$$

5. Factor $x^2 - 15x + 56$

$$(x - 8)(x - 7)$$

6. Factor $x^2 + 6x + 5$

$$(x + 5)(x + 1)$$

7. Factor $x^2 - x - 30$

$$(x - 6)(x + 5)$$

8. Factor $x^2 + x - 12$

$(x - 3)(x + 4)$

9. Factor $x^2 - 7x - 8$

$(x - 8)(x + 1)$

10. Factor $x^2 + 2x - 15$

$(x - 3)(x + 5)$

11. Factor $x^2 + 5x - 14$

$(x + 7)(x - 2)$

12. Factor $x^2 - x - 56$

$(x - 8)(x + 7)$

13. Factor $x^2 - 3x - 28$

$(x + 4)(x - 7)$

14. Factor $x^2 + 5x + 4$

$(x + 1)(x + 4)$

15. Factor $x^2 - 9x + 14$

$(x - 7)(x - 2)$